What is claimed is:

1. A system for obtaining a high-resolution image of an object, comprising:
   a) a red-light source;
   b) a blue light source;
   c) a green light source;
   d) a monochrome camera; and
   e) a processing unit;

wherein the monochrome camera captures a red light image of the object, a blue light image of the object and a green light image of the object; and

wherein the processor combines the red light image, the blue light image and the green light image into a single high-resolution monochrome image using red, blue and green color information stored on 24 bits of data per pixel.

2. The system of claim 1, wherein the surface of the object is comprised of more than one type of material.

3. The system of claim 1, wherein the object is a wafer or an integrated circuit (IC) package.

4. The system of claim 1, wherein the processor converts the red light image, the blue light image and the green light image from RGB to HSI.

5. The system of claim 1, wherein the processor adjusts the white balance of the red light image, the blue light image and the green light image.

6. A method of obtaining a high-resolution image of an object for inspection of defects, comprising steps of:
   a) illuminating the object with a red light source;
   b) capturing a red light image of the object with a camera;
   c) illuminating the object with a blue light source;
   d) capturing a blue light image of the object with the camera;
   e) illuminating the object with a green light source;
   f) capturing a green light image of the object with the camera;

g) combining the red light image, the blue light image and the green light image into a high-resolution monochrome image using red, blue and green color information stored on 24 bits of data per pixel; and
h) analysing the high-resolution monochrome image for defects.

7. The method of claim 6, wherein the step of combining the red light image, the blue light image and the green light image includes a conversion from RGB to HSI.

8. The method of claim 6, including a step of adjusting the white balance of the red light image, the blue light image and the green light image.

9. The method of claim 6, wherein the surface of the object is comprised of more than one material.

10. The method of claim 6, wherein the object is a wafer or an integrated circuit (IC) package.

11. The method of claim 6, wherein the defects are irregularities and/or surface flaws on the object.